

No. 6.— *New and Little Known Spiders from the United States*

By ELIZABETH B. BRYANT

Recently while identifying spiders from various collections at the Museum of Comparative Zoölogy several new species and new records of distribution were found. In recent years Mr. W. S. Blatchley has sent Professor Banks collections from Dunedin and Royal Palm Park, Florida. It is not surprising to find from the latter locality four West Indian species, *Theridion rufipes* Koch, a cosmopolitan tropical species, *Trachelas bicolor* Keyserling, described from Haiti, *Corinna gracilipes* (Keyserling) also known only from Haiti, and *Pseudosparianthis cubana* Banks described from Havana, Cuba. From Brownsville, Texas, were found two Mexican species, *Metaphidippus longipalpus* Cambridge and *Miagrammopes lineatus* Cambridge, the first time that the latter genus has been found in the United States, and also *Myrmecotypus cubanus* Banks, a Cuban species originally found with ants at Soledad, Cuba.

The following species are new:

Euryopis emertoni

Euryopis ornata

Gonatium crassipalpus

Dipæna lineatipes

Trachelas laticeps

Xysticus laticeps

Xysticus trimaculatus

Philodromus montanus

Philodromus bilineatus

Philodromus emertoni

Ebo cockerelli

ULOBORIDAE

MIAGRAMMOPES LINEATUS Cambridge

Biol. Centr. Amer., Arachn., 1894, 1, p. 137, pl. 17, fig. 12.

Among a small lot of spiders collected by C. Schaeffer at Brownsville, Texas, was a small *Miagrammopes* that probably is this species. It agrees with a specimen from Costa Rica in size and arrangement of eyes. It is the first time that the genus has been recorded from the United States.

THERIDIIDAE

EURYOPIS EMERTONI spec. nov.

Plate 1, fig. 1

♂ 2 mm. long.

Cephalothorax bright orange red, black about the eyes with a few short, stiff hairs in front of the quadrangle of eyes; abdomen, basal four-fifth covered with a brown scutum with many long, slender hairs from coriaceous spots; legs bright yellow with many fine hairs; sternum and coxæ orange; sternum prolonged in an obtuse lobe between the posterior coxæ; venter covered with two thickened pieces, one from the pedicle to the spiracles and the other continued to the spinnerets, nearly the width of the venter; eyes, anterior row recurved, A.M.E. slightly largest, separated by diameter and a half and from A.L.E. by less than a diameter; posterior row straight, only very little longer than anterior row, eyes subequal and equidistant, lateral eyes almost touching; quadrangle of median eyes widest in front and wider than high; clypeus about three times as high as eye area.

Palpus small, tibia less than half as long as wide, with simple rounded sides and no lobes; palpal organ very simple as figured.

Holotype (♂) Ga.; Thompson's Mills, H. A. Allard; N. Banks Coll.

This species is very close to *Euryopsis spinigera* Cambridge, Biol. Centr. Amer., 1895, 1, p. 146, pl. 19, fig. 2, but differs as follows: the clypeus three not four times the eye area, a distinct scutum between the epigastric fold and the spinnerets, instead of scattered patches, and in the male palpus the narrow tibia without lobes, where in *E. spinigera* it is described and figured as "very short and spreading, produced considerably on the inner side in an obtuse form."

It is very probable that the two specimens referred to as *E. spinigera* by Mr. J. H. Emerton, in *Psyche*, 1924, **31**, p. 142, fig. 4 from Chatham, Massachusetts, and Charleston, South Carolina, are this species.

EURYOPIS ORNATA spec. nov.

Plate 1, figs. 2, 3

♂ 1.5 mm. long.

Cephalothorax dull gray brown, black around eyes; abdomen brownish gray with six transverse clear bands, those at the apex bent almost like chevrons; legs pale yellow without marks; sternum, venter and coxæ pale yellow; IV coxæ separated by more than a diameter;

eyes, A.M.E. largest of the eight, separated by about a diameter; lateral eyes almost touching; quadrangle of median eyes widest in front; clypeus more than twice as high as quadrangle.

Palpus very simple; tibia about as long as patella.

Holotype (♂), Miss.; Meridian, H. E. Weed, N. Banks Coll.

Euryopsis ornata is much smaller than any described American species. It differs from *E. spinigera* Cambr. reported by Mr. Emerton from Chatham, Massachusetts, and Charleston, South Carolina, by the palpus and the lack of a scutum on dorsum and venter, and from *E. funebris* (Hentz) by the much smaller size, unmarked legs and palpus.

Theridion quadrimaculatum (Banks)

Plate 1, fig. 4

Mysmena quadrimaculata Banks, Trans. Amer. Ent. Soc., 1896, **23**, p. 66.

♂ 1.5 mm. long.

Cephalothorax, legs and sternum pale yellow; abdomen yellowish gray with four dark blotches as in the female, with many long hairs; venter dark in the center; sternum as broad as long; eyes; anterior row recurved, A.M.E. separated by two diameters and by one diameter from A.L.E.; posterior row, eyes subequal, procurved so that lateral eyes touch, P.M.E. separated by more than a diameter; quadrangle about as high as wide; clypeus a little higher than quadrangle of eyes.

Palpus longer than I femur, patella longer than tibia; palpal organ very simple.

Holotype (♀) Fla.; Punta Gorda, N. Banks Coll.

Allotype (♂) Fla.; Dunedin, March, 1927, W. S. Blatchley Coll.

The type of this species is a female and it was placed in the genus *Mysmena*. In 1925 Mr. Crosby examined the type and said that it did not belong to that genus. The male palpus shows that it is a *Theridion* in the sense that Simon uses the genus.

Theridion rufipes Koch

This cosmopolitan tropical spider has been found recently at Sebastian, Florida.

GONATIUM CRASSIPALPUS spec. nov.

Plate 1, figs. 5, 6, 8, 9, 10

♂ 2.5 mm. long; ceph. 1.2 mm.; abd. 1.7 mm.

Cephalothorax bright brown, black around the eyes; abdomen gray;

legs orange; head elevated in eye area, sternum brown, widest between I coxæ and almost as wide as long, extending in a square lobe between IV coxæ, which are separated by a diameter; mandibles with three equal teeth on superior margin of fang groove, I femur with row of stiff bristles from coriaceous pits, patella much swollen on upper side, tibia bent and dilate near apical end with an irregular mass of dark hairs and a fringe of long, colorless hairs, metatarsus with two rows of short, stiff bristles which continues on the tarsus; eyes subequal with laterals almost touching.

Palpus; femur much enlarged, the granulations less numerous than in *Gonatium rubens*, patella longer than tibia, superior apophysis of tibia long, slender and curving, almost reaching the tip of the tarsus; below are two apophyses, short and black, the lower one quite complicated; palpal organ fills the cavity and very complicated.

♀ 3.2 mm. long; ceph. 1.5 mm.; abd. 2.2 mm.

Cephalothorax brown, darker than the male, abdomen brownish gray; legs brown, about the same color as the cephalothorax with many hairs but not in rows as in the male; sternum brown; head not high as in the male, but slightly elevated and the eyes a little more separated.

Epigynum a large dark cavity, twice as wide as high with the openings widely separated.

Holotype (♂) Colo.; Long Lake, 28 August, T. D. A. Cockerell; N. Banks Coll.

Allotype (♀) Colo.; Long Lake, 28 August.

Paratype 1 ♂ Colo.; Boulder, Peaceful Valley, 8,000 ft., August, T. D. A. Cockerell; N. Banks Coll.

This species is less brightly colored than *Gonatium rubens* (Blackw.), the European species found in the east, and differs from it in the male palpus and the epigynum in the female. The long, curved apophysis on the tibia of the male palpus is longer and more slender and the other apophyses are more complicated; the epigynum of *Gonatium rubens* is higher than wide and the cavity is much smaller.

DIPENA LINEATIPES spec. nov.

Plate 1, fig. 7

♀ 1.4 mm. long.

Cephalothorax yellow, black in eye area and a dark triangle from the posterior eyes to the cephalic groove; abdomen round, gray and covered with short, stiff, curved hairs from distinct coriaceous granulations,

more numerous at base than at apex; two pairs of muscle spots, small but distinct; legs yellow, with rows of hairs on tibia and metatarsus longer than the diameter of the joint and a broad dark stripe on tibiae and metatarsi, more distinct on I and II legs; sternum and coxae yellow; venter gray with stiff hairs, smaller than on the dorsum; eyes, anterior row straight, A.M.E. separated by more than a diameter, about twice as large as A.L.E. and separated from them by a radius; posterior row procurved, equidistant, P.M.E. slightly larger than P.L.E. and a little smaller than A.M.E.; lateral eyes touching; clypeus about twice as high as quadrangle of eyes.

Epigynum rather large for the size of the spider, showing two large circular cavities partly separated by a septum and a pair of small dark dots close together near the epigastric fold.

Holotype (♀) Fla.; Royal Palm Park, 15-24 March, 1930, W. S. Blatchley.

The small size, striped legs and large epigynum are distinct from any described species.

EPEIRIDAE

The American species of *Pachygnatha* have been in a confused state for many years. In 1845 C. Koch described two species from Pennsylvania, *P. tristriata* and *P. xanthostoma*. These are now in the Berlin Museum. In 1882 Keyserling redescribed a male and female from Boston, Massachusetts, in the Simon Collection as *P. tristriata*. A year later he decided that it was a new species and called it *brevis* and a species found "at Long Island, Philadelphia, and Columbus, (Texas)" in the Marx Collection was called *P. tristriata*. In the same paper he redescribed and figured *P. xanthostoma* from Philadelphia but he evidently did not feel quite sure of his identification for he queried it. Later McCook in *American Spiders*, 1893, 2, p. 269, pl. 26, figs. 7, 8 also described *P. xanthostoma* and in a footnote calls attention to the fact that his specimens do not agree in size with that of the original description. He has also added to the confusion by exchanging the figures of the mandibles of *P. xanthostoma* and *P. dorothea* McCook. The latter, he states, has a tooth on the fang and the artist shows a tooth on the upper side of the mandible above the insertion of the fang.

In 1912, Mr. Banks examined the Koch types at the Berlin Museum and found that the species labelled *P. xanthostoma* is what has been recognized as *P. brevis*. Koch compares his species to the European species *P. deggeri* which also has a short abdomen (but little longer than

the cephalothorax) and mandibles at least half as long as the cephalothorax. It also is the most common species in the eastern United States.

Among the many specimens of *P. xanthostoma* Koch (*brevis* Keys.) were several males that differ in the arrangement of teeth on the superior margin of the mandible and the slender tarsal appendage of the palpus. These have been recognized as *P. furcillata* Keys., a species that has been placed as a synonym of *P. xanthostoma* Koch (*brevis* Keys.).

P. dorothea McCook is easily recognized by the tooth on the upper side of the mandible above the insertion of the fang. The type of the genus, *P. clerckii* Sund. also has this tooth, but the three European species differ from the American by the quadrangle of median eyes, which in the European is narrower in front and the P.M.E. always the largest of the eight.

PACHYGNATHA DOROTHEA McCook

Plate 4, figs. 37, 41

American Spiders, 1893, 3, p. 270, pl. 26, figs. 3, 4.

♂ 3.2 mm. long.

Cephalothorax brown with a broad marginal stripe and a median stripe in front of thoracic groove; folium dull brown with irregular clear white paired marks, sides and venter pale brown; legs pale yellow; eyes, anterior row recurved, A.M.E. carried forward and nearer each other than to A.L.E., posterior row slightly procurved, P.M.E. nearer each other than to P.L.E., quadrangle slightly higher than wide, median eyes subequal, and lateral eyes touching; clypeus not as high as quadrangle; mandibles divergent, about one half as long as cephalothorax, superior margin of fang groove with a blunt hook or tooth at base of fang and three equidistant teeth, inferior margin with four subequal and equidistant teeth, fang long and sinuate; head relatively low.

Palpus, femur as long as mandible, tibia a little longer than patella, tarsal appendage with a blunt tip, and the usual widened portion one-third from the base.

♀ 3.5 mm. long.

The female has the same coloring as in the male, but the clypeus is a little higher and about equals height of quadrangle. The mandibles are geniculate, not as divergent as in the male and the blunt tooth above the base of the fang is missing; the teeth on the inferior margin is the same.

The type of this species was found near Philadelphia. In the museum

collection there are specimens from Ithaca, New York; Salineville, Ohio; Boulder, Colorado; and Manitoba, Canada. Because it is a small species it has been confused with *P. autumnalis*.

PACHYGNATHA FURCILLATA Keyserling

Plate 4, figs. 38, 39

Verh. z. b. Ges. Wien, 1883, **33**, p. 662, pl. 21, fig. 11.

♂ 4.8 mm. long; ceph. 2 mm., abd. 3 mm.

Cephalothorax reddish brown; abdomen brown folium covering two-thirds the width of abdomen, sides golden; legs light brown; mandibles, superior margin of fang groove one large hooked tooth near insertion of fang and two smaller teeth close together near median edge; inferior margin, two small teeth about opposite the two teeth on superior margin, fang long and overlapping; eyes, anterior row recurved, A.M.E. about a diameter apart and slightly larger than P.M.E.; posterior row straight; lateral eyes touching; quadrangle of median eyes about square.

Palpus; tibia and patella about equal length, bulb of palpal organ large, not divided, tarsus extending but short distance beyond, tarsal appendage slender, with slender curved tip, with the usual widened portion one-third from tip.

♀ 5.8 mm. long; ceph. 2.5 mm., abd. 3.5 mm.

The colors and position of the eyes are the same as in the male. The mandibles are as Keyserling describes, an even convex margin when seen from the side, not suddenly geniculate as in *P. xanthostoma (brevis* Keys.). On the superior margin of the mandible are three small teeth corresponding to those in the male; the inferior margin also has three teeth opposite those on the superior margin.

Allotype (♂); New York, Sea Cliff, N. Banks Coll.

♂ ♀ N. Y.; Ithaca; D. C.; Washington.

PACHYGNATHA MALES

1. Eyes of posterior row equidistant; superior margin of mandibles with two large sharp teeth near median edge; tarsal appendage of palpus long and slender; a small species. *autumnalis*
- Eyes of posterior row not equidistant. 2
2. Mandibles with tooth above insertion of fang; superior margin with three teeth on median half; fang sinuate, with tooth about middle on inner edge; tarsal appendage of palpus with truncate tip; a small species, *dorothea*
- Mandibles without tooth above insertion of fang. 3

3. Fang with tooth about middle on inner edge; superior margin of mandible with a large tooth opposite tooth of fang and two small teeth near median edge; bulb of palpus about half length of tarsus. *tristriata*
Fang without tooth on inner edge 4
4. Superior margin of mandible with three equidistant teeth, the basal largest; tarsal appendage of palpus broad and spatulate
xanthostoma (brevis)
Superior margin of mandible with three teeth, basal one large and sharp and two very small ones near median edge; apical half of tarsal appendage very slender, ending in a sharp point. *furcillata*

GASTERACANTHA CANCRIFORMIS (Linné)

Vibradellus carolinus Chamberlin, Bull. Mus. Comp. Zoöl., 1925, **67**, p. 214.

An examination of the type of *Vibradellus carolinus* shows that it is a male *Gasteracantha cancriformis*. Unfortunately the specimen is faded and broken and the fourth pair of legs are missing so that the presence or absence of the comb characteristic of the *Theridiidae* can not be verified. In the description Mr. Chamberlin fails to mention the row of sigillae on the basal margin of the abdomen, but calls attention to "a rounded shoulder or protuberance a little behind each anterolateral corner" which is all that remains in the male of the large anterolateral spines in the female. The arrangement of eyes is characteristic of many males in the *Epeiridae*.

THOMISIDAE

XYSTICUS BANKSI nom. nov.

Xysticus pallidus Bryant, Psyche, 1930, **37**, p. 138, figs. 11, 12, 14, preoccupied by Cockerell, Ent. Month. Mag.; 1890, p. 191.

XYSTICUS LATICEPS spec. nov.

Plate 3, fig. 25

♀ 6.5 mm. long; ceph. 3 mm. long, 3 mm. wide, head 2.5 mm. wide; abd. 3.8 mm. long.

Cephalothorax longer than I femur.

Cephalothorax light brown, with a wide marginal dark stripe and dark stripes from lateral eyes converging and ending in a pair of large dark spots above the abdomen; usual dark spot at end of thoracic groove small; abdomen brown with irregular cream color marks and paired dark spots; abdominal spines heavy; sternum light with irregu-

lar dark spots; coxae light with two dark dots; legs light brown with faint lines of a darker brown; IV femur and tibia with a pair of dark spots at tip; spines, I tibia, 7-5, no lateral, metatarsus, 6-5, 2 lateral.

Epigynum a simple cavity with a narrow septum at base.

Holotype (♀) Ala.; Mobile, 2 August, 1930, W. S. Creighton.

This species belongs near *Xysticus luctans* Koch but differs as follows: head broader, dark stripes on cephalothorax converging, not parallel, greater number of spines on I tibia and the shape of the epigynum. It differs from *Xysticus graminis* Emerton by the greater size, the converging dark stripes, much longer legs and the more numerous spines and the epigynum which is broader than long.

XYSTICUS TRIMACULATUS spec. nov.

Plate 2, figs. 12, 13

♂ 4.5 mm. long; ceph. 2.5 mm., abd. 2.2 mm.

Cephalothorax shorter than I femur.

Cephalothorax golden brown with three subequal dark brown spots on posterior part, a white band between eye rows and a pair of white converging lines from posterior eye row to median dark spot, sides lightly veined with dark; long dark bristles at edge of clypeus, a pair of long bristles above each palpus and a row of smaller bristles outside the white line; abdomen white with many long dark bristles, one median dark spot at basal half followed by four pairs of irregular dark spots; sternum and coxae light yellow; venter light; legs; I left leg missing, little lighter than cephalothorax, dark ring at tips of I and II tibiae, I and II metatarsi darker and a dark stripe beneath an apical half and a fringe of long white hairs on under side, longer than spines; III and IV legs with dark spots at tip of femora and tibiae; spines; I femur, a row of 6 long spines on upper edge, 5 shorter spines in front, many short dark hairs; I tibia 4-4, 3 lateral, metatarsus, 3-3, 2 lateral, all femora have a row of long dark spines on upper edge that are very conspicuous.

Palpus; tibia shorter than patella, superior apophysis rather small, inferior apophysis with an upper lobe extending towards the palpal organ and a semicircular lobe with a distinct keel at right angles to the tibia, three long bristles on inner edge of tibia; tutaculum small, usual apophyses in center of palpal organ simple and widely separated.

Holotype (♂) Ark.; Hope, 9 June 1931. Miss L. Knobel Coll.

This is closely related to the light form of *Xysticus triguttatus* but differs in the following points; the much larger size, the comparative length the first femur and the cephalothorax, the lighter color cephalo-

thorax and the light legs with a dark line beneath first and second metatarsi, and in the palpus by the different shaped inferior apophysis of the tibia and in the palpal organ by the widely separated central apophyses.

XYSTICUS VARIABILIS Keyserling

Plate 2, fig. 11; Plate 3, fig. 31

Die Spinnen Amerikas, Laterigradae, 1880, p. 40, pl. 1, fig. 19.

♀ 3 mm. long; ceph. 1.5 mm.; abd. 1.8 mm.

Cephalothorax longer than I femur.

Cephalothorax light brown with a median area blotched with cream color, sides darkened with irregular dark veins and a pair of large dark spots in front of the abdomen, usual dark spot at end of thoracic groove small; abdomen with a pair of dark spots at base and three or four dark transverse bars, broken by a median cream color branching figure; sternum and venter light with scattered dark marks; coxæ and under side of legs light; legs light brown with cream color blotches, IV leg dark bands at tips of femur, patella and middle and tip of tibia; spines, I tibia, 4-3, no lateral, metatarsus, 3-3, all longer than diameter of joint, 1 lateral, at the edge of clypeus are several long bristles equal in length to space between A.M.E. and in eye area several long clavate bristles; abdomen with many small clavate bristles from coriaceous pits.

Epigynum an oval depression, wider than high, with a dark median piece and two dark spots below as figured.

The specimen agrees fairly well with Keyserling's description but is a little smaller. The clavate bristles in the eye area and on the abdomen are not mentioned.

♂ 3 mm. long; ceph. 1.7 mm., abd. 1.5 mm.

Cephalothorax longer than I femur.

Cephalothorax brown with a faint V shaped light mark ending at the thoracic groove, median line broken into five dark dashes ending with a rather small dark spot at thoracic groove, sides brown, veined with a darker brown and a pair of large dark spots just in front of the abdomen, very few bristles on cephalothorax; abdomen lighter brown with a pair of dark blotches at base and three broken dark bands across posterior half with parallel cream color lines above and irregular cream color lines on sides, bristles rather large; venter and under sides of legs light; legs light brown, I and II femora with dark spots, tibiae with indistinct dark band at base; III and IV legs dark bands at tips of all

joints; spines, I femur, 4 rather short on front side, 3 on upper edge, tibia 4-4, 2 middle pairs long, 3 lateral; metatarsus 3-3, 2 lateral, first and second pairs very long.

Palpus; superior apophysis of tibia large, inferior apophysis long, ending in a curved knob that rests on the palpus; tutaculum large and curving on the lower side of the palpus; palpal organ with the usual two apophyses which do not stand upright but are turned over and somewhat appressed to palpal organ, subequal with the superior somewhat sinuous; style ending in a circular loop with tip outside the palpus.

Allotype (♂) N. C.; Wilmington, May 1900, J. H. Emerton Coll.

1 ♀ N. C.; Newbern, May 1900; 1 ♂ S. C.; Charleston, May 1900; J. H. Emerton Coll.

This species was described from a female in the Simon Collection. Mr. Banks, after seeing the type, states in Proc. Phila. Acad., 1913, p. 179, "One female, a small species, which resembles a young *stomachus*." While the males were not found with the female, the size and markings make it quite certain that the two belong together and the male palpus shows that it is a distinct species.

PHILODROMUS BILINEATUS spec. nov.

Plate 2, figs. 14, 19; Plate 3, fig. 29

♀ 4 mm. long; ceph. 1.5 mm., abd. 2.5 mm.

Cephalothorax light brown with broad dark stripes extending from the P.L.E. to posterior edge of cephalothorax; a faint light lateral stripe; abdomen light brown with the dark stripes on the cephalothorax continued and converging at the apex, sides cream white; sternum, labium and venter almost white; legs light brown with anterior and posterior dark stripes on femora, patellae and tibiae of all legs but most distinct on the III and IV. II leg longest; spines I, tibia, 2-3, 1 lateral, metatarsus, 2-2, II tibia, 2-2-2-2, metatarsus, 2-2, 2 lateral; eyes, black surrounded by white rings; anterior row recurved, subequal, A.M.E. nearer A.L.E. than to each other; posterior row recurved, P.M.E. smallest of the eight and widely separated; quadrangle of median eyes much wider than high and once and a half wider behind than in front; lateral eyes on separate tubercles at the extreme edge of the carapace; clypeus more than twice the diameter of anterior eye with a few long bristles; cephalothorax longer than wide with sides almost parallel; abdomen notched at base.

Epigynum with a broad median lobe with two dark bodies each side as figured.

♂ 2.8 mm. long.

Markings the same as on the female but less distinct and the stripes on the anterior legs reduced to rows of elongated dots.

Palpus; tibia but little longer than patella with a stout, curved black hook which rests against tarsus, and an inferior, flat leaf-like lobe extending over the palpal organ. Palpal organ about filling tarsal cavity; the style is short and black and the tips rest against a transparent lobe in the upper part of the organ; loop is almost vertical.

Holotype (♂) Fla.; Dunedin, March 1927, W. S. Blatchley Coll.

Allotype (♀) Fla.; Dunedin, March 1927.

Paratype ♀ Fla.; Royal Palm Park, March 1927.

This species differs from *Philodromoides pratariæ* Scheffer in the few spines under the anterior tibiae, but it agrees with it in the position of the lateral eyes on the extreme edge of the carapace. It agrees with *Philodromus montanus* spec. nov. in the general shape of the palpus, the two dark lines on the under side of the legs, but differs from it, by the arrangement of the eyes and the parallel sides of the carapace and the narrow and less sloping clypeus.

PHILODROMUS MONTANUS spec. nov.

Plate 2, fig. 20; Plate 3, fig. 26

♀ 4 mm. long; ceph. 1.5 mm., abd. 2.5 mm.

Cephalothorax with broad pale median stripe, sides darker with a narrow marginal light line; abdomen light, with vague transverse bands on apical half, sides darker; sternum light with a few dark dots about margin; venter light; legs, I missing, light with a dark line on anterior and posterior sides of femora, patellae and tibiae; spines II, tibia, 2-2-2, 2 lateral, metatarsus, 2-2, 2 lateral; eyes, anterior row recurved, A.M.E. slightly nearer A.L.E. than to each other; posterior row of eyes recurved, subequal, P.M.E. twice as far from each other as from P.L.E.; clypeus sloping and equal to space between A.M.E.

Epigynum, median lobe narrow at base with oval cavity each side as figured.

♂ 3 mm. long; ceph. 1.5 mm., abd. 1.6 mm.

Cephalothorax brown, mottled with a darker shade and a little lighter in center; abdomen brown without any definite markings, but mottled with a darker brown; sternum and venter pale yellow; legs light brown, almost yellow, with a dark line on anterior and posterior sides of femora, patellae, tibiae and metatarsi; spines, I tibia, 2-2-2,

2 lateral, metatarsus, 2-2, 3 lateral; eyes same as in female but clypeus is higher and more sloping.

Palpus short, tibia shorter than patella, and tibia and patella not as long as tarsus; tibia with a short black hook on the superior side and a thin transparent leaf-like inferior apophysis which rests against the palpal organ; tarsal cavity almost filled with palpal organ, style starts above the middle and has a straight black tip which rests against a transparent lobe; the loop is oblique.

Holotype (♂) N. C.; Black Mt.; North Fork Swannanoa River, 18-30 May, N. Banks Coll.

Allotype (♀) N. C.; Black Mt.

This pair was identified as *Philodromus rufus* Walekenaer by Mr. Banks in his list of spiders from North Carolina. It belongs to the group of *Philodromus* with the P.M.E. widely separated and with dark lines on the legs, *minutus* Banks, *inaequipes* Banks, and *carolinus* Banks. It differs from *minutus* in the male palpus by the greater length of the inferior apophysis and the longer embolus, and from *inaequipes* by the narrower palpus and the shorter superior apophysis.

PHILODROMUS INAEQUIPES Banks

Plate 2, fig. 21; Plate 3, fig. 33

Can. Ent., 1900, **32**, p. 99.

♂ 3 mm. long; II femur 2.3 mm. long.

Cephalothorax dark brown, with a very faint light V shaped mark over thoracic groove; abdomen dark brown with a broad median stripe of a darker brown; sternum, coxæ and under side of legs light brown; venter white; legs light brown, I pair missing, a dark line on anterior and posterior sides of II femur, and anterior side of III and IV femora and tibiae; eyes, anterior row recurved, subequal, A.M.E. slightly nearer A.L.E. than to each other; posterior row recurved, P.M.E. separated by nearly twice the space between A.M.E.

Palpus; patella and tibia about equal length, tibia as broad as long, the superior apophysis a black hook curved towards the palpus, equal in length to more than half the diameter of the joint; inferior apophysis a flattened white lobe which rests against the palpal organ; palpal organ fills the tarsal cavity; style short, starts about the middle and extends obliquely across the cavity; loop is broad and is parallel to embolus.

Allotype (♂) Va.; Falls Church, N. Banks Coll.

1 ♀ Va.; Falls Church, N. Banks Coll.

This species was described from a single female from Washington, D. C. Among the unidentified material in the museum, a male and female from Falls Church are this species. It belongs to the section of *Philodromus* with widely separated P.M.E. and dark lines on the sides of the legs.

PHILODROMUS EMERTONI spec. nov.

Plate 2, figs. 17, 22; Plate 3, fig. 34

♂ 3.5 mm. long; ceph. 1.5 mm.

Cephalothorax light brown, without median light stripe but with scattered dark spots on clypeus, around eyes and about dorsal groove; abdomen brown, without markings and covered with iridescent hairs; sternum light with dark spots about margin; coxæ, venter and under side of legs light; legs light brown with scattered dark dots on all joints, II leg much longer than I leg; spines I femur, 3 on upper side, 3 basal, tibia, 2-2-2, 3 lateral, all longer than diameter of the joint, but slender and colorless, metatarsus, 2-2-2; scopula thin; cephalothorax as long as wide; eyes, anterior row recurved, subequal and equidistant; posterior row almost straight, P.M.E. separated by more than twice the distance between P.L.E. and P.M.E.

Palpus rather short; tibia not as long as patella, superior apophysis short, acutely pointed with a small tooth on exterior side, inferior apophysis very close to superior, slender, thin and folded, extending on the upper side of the tarsus, so that in the ventral view only the tip is seen a little above the origin of the style; palpal organ fills the tarsal cavity, style starts on the exterior edge, extends across the middle of the upper part, making about two-thirds of a circle; the usual loop is almost horizontal. The small black spine sometimes found in the upper half just under the tip of the embolus is wanting.

♀ 4.5 mm. long; ceph. 1.8 mm.

Cephalothorax cream color with vague darker marks and dark dots on clypeus, about eyes and thoracic groove as in male; abdomen covered with small dark dots, but with a broad median lighter area which has four pairs of dark spots; sternum cream color with many dark dots about margin; coxæ and venter light; legs light with many dark dots on all joints; spines as in male but longer and heavier; cephalothorax longer than wide; eyes as in male.

Epigynum has a broad median septum with a wide oval area each side.

Holotype (♂) N. C.; Newbern, May 1900, J. H. Emerton Coll.

Allotype (♀) N. C.; Newbern, May 1900, J. H. Emerton Coll.

This species is similar to *Philodromus ornatus* Banks but the palpus is twice as large and much broader in proportion, the inferior apophysis is narrower and closer to the superior and the loop is nearer horizontal. The palpal organ is very similar to *Philodromus robustus* Emerton, but both superior and inferior apophysis are different and the legs of *Philodromus robustus* are very hairy.

PHILODROMUS AUREOLUS (Clerck)

Araneus aureolus Clerck, Svensk. Spindl., 1757, p. 133, pl. 6, fig. 9.

Philodromus canadensis Emerton, Can. Ent., 1917, **49**, p. 270, fig. 22.

Keyserling in Die Spinnen Amerikas, Laterigradae, 1880, states that this species has a wide distribution over the western states. On examining the type of *Philodromus canadensis* it proves to be the European species. It is common throughout Canada and as far south as Boston, Massachusetts, and Ithaca, New York. It is possible that *Philodromus californicus* Keyserling may be this species.

PHILODROMUS INFUSCATUS Keyserling

Fig. 28

Philodromus infuscatus Keyserling, Die Spinnen Amerikas, Laterigradae, 1880, **1**, p. 222, pl. 5, fig. 122.

Philodromus unicolor Banks, Proc. Phil. Acad., 1892, p. 61, pl. 3, fig. 22.

Philodromus macrotarsus Emerton, Can. Ent., 1917, **49**, p. 271, fig. 22, nos. 1, 2.

This species was described by Keyserling from a female from Baltimore and by Mr. Banks from a female from Ithaca. Mr. Emerton described the male from Vineland, Ontario. The male has been found since with females from Falls Church, Virginia, and from Poughkeepsie, New York. Mr. Emerton has an excellent figure of the male palpus.

PHILODROMUS LATICEPS Keyserling

Philodromus laticeps Keyserling, Die Spinnen Amerikas, Laterigradae, 1880, p. 215, pl. 5, fig. 118.

Philodromus louisianus Chamberlin, Proc. U. S. Nat. Mus., 1924, **63**, p. 23, pl. 5, fig. 39.

The type of *Philodromus louisianus* Chamberlin proves to be *Philodromus laticeps* Keyserling, described from Georgia. The male

is not known but the female has been found as far north as Newton, Massachusetts.

APOLLOPHANES TEXANUS Banks

Apollophanes texanus Banks, Jour. N. Y. Ent. Soc., 1904, **12**, p. 113, pl. 5, fig. 12, pl. 6, fig. 20.

Philodromus syntheticus Chamberlin, Proc. Cal. Acad. Sci., 1925, **14**, p. 124, figs. 33, 36.

On examining the type of *Philodromus syntheticus* Chamberlin it is found to be *Apollophanes texanus* Banks. The strongly procurved posterior row of eyes which are equidistant, as well as the A.L.E., P.L.E. and P.M.E. which form an equilateral triangle, are characters of *Apollophanes* rather than *Philodromus*.

EBO INQUISITOR (Thorell)

Plate 2, fig. 16; Plate 3, fig. 30

Philodromus inquisitor Thorell, Bull. U. S. Geol. Surv., 1877, **3**, p. 502.

Philodromus thorellii Marx, Catalogue, 1889, p. 558, *thorellii* preoccupied by Cambridge, 1872.

Philodromus inquisitor Emerton, Trans. Conn. Acad., 1894, **9**, p. 419, pl. 5, fig. S.

♂ 4 mm. long, ceph. 1.6 mm. long, 1.8 mm. wide, abd. 2.4 mm. long.

Cephalothorax with median mottled light stripe, sides dark brown; abdomen with spear-shaped dark mark at basal half, sides and apex dark; the contrast in color between basal half and apex not as great as in the female; sternum, coxæ and venter light brown covered with minute brown dots; legs light brown covered with small brown dots which form bands at middle and tips of femora, base and tips of tibiae; I femur 2.5 mm. long, II femur 4.5 mm. long; sternum a little wider than long; II coxæ largest and IV coxæ separated by a diameter; labium about as high as wide; eyes, anterior row recurved so that upper margins are even, A.M.E. largest of the eight, and A.L.E. smallest, A.M.E. separated by a little more than a diameter and from the A.L.E. by about a radius; posterior row straight, subequal, P.M.E. separated by more than three diameters and from P.L.E. by about two diameters; quadrangle widest behind and about as high as wide between P.M.E.; clypeus vertical as high as quadrangle.

Palpus, femur longer than cephalothorax, tibia longer than patella, tibia and patella not as long as femur, superior apophysis short, trun-

cate with distinct tooth at each corner as figured; inferior apophysis semitransparent, broad and a little shorter than superior; tarsus long and narrow, palpal organ filling cavity, style starts at upper third of organ and follows curve of cavity making a small semi-circle; loop small and horizontal.

Allotype (♂) Cal.; Claremont, C. F. Baker, N. Banks Coll., many females from Colorado and Washington.

By the characters used in separating genera, this species would be placed in *Ebo* rather than *Philodromus*. The large anterior median eyes, the posterior row of eyes almost straight and the second leg much longer than the first are all characters of *Ebo*, but the general appearance is not much like the type of the genus. Mr. Emerton states that he has seen the type of *Philodromus inquisitor* in the Packard Collections and gives an excellent figure of a female from Laggan, Canada, which is now in the museum collection. He did not note the large anterior median eyes or the greater length of the second leg.

EBO COCKERELLI spec. nov.

Plate 2, figs. 15, 18; Plate 3, figs. 27, 36

♂ 3.5 mm. long; ceph. 1.5 mm. long, 1.6 mm. wide; abd. 2.5 mm. long.

Cephalothorax light brown with a light V shaped mark ending at the thoracic groove; sides with dark veins; abdomen with a spear shaped dark mark at the basal third and indistinct chevrons formed by dark dots on apical half; sternum and coxæ light brown with many dark dots; venter almost white; legs light yellow with dark bands formed by dots at tips of femora and base and tips of tibiae; spines small and inconspicuous; spines, I tibia, 2-2, 2 lateral, metatarsus, 2-2, 1 lateral; thin scopula on I metatarsus and tarsus and on II, III and IV tarsi; II pair of legs much the longest, II femur twice as long as I femur; sternum one-third wider than long and widest between second coxæ; labium about as high as wide at the base; IV coxæ separated by a diameter and II coxæ slightly longest; eyes, anterior row slightly recurved, A.M.E. largest of the eight, separated by more than a diameter, A.L.E. about a radius from A.M.E. and about half as large as A.M.E.; posterior row slightly procurved, subequal, P.M.E. nearer P.L.E. than to each other; quadrangle not quite as high as space between P.M.E.; clypeus vertical about equal to height of quadrangle.

Palpus longer than cephalothorax; tibia nearly twice as long as patella and longer than tarsus; superior apophysis of tibia a short

truncate lobe with three apical teeth; inferior apophysis a white leaf-like lobe folded against superior apophysis; palpal organ very simple; style starts in upper third and follows contour of the cavity, ending about opposite to its origin; loop oblique; the usual dark spine found in *Philodromus aurcolus* missing.

♀ 4 mm. long; ceph. 1.6 mm. long, 1.7 mm. wide; abd. 2.5 mm. long.

The colors and markings are the same as in the male but the chevrons at the apex of the abdomen are not as distinct and are more like two converging dark lines; the dark dots on the legs are more scattered and the dark bands less conspicuous; the II pair of legs is much the longest and the II femur is once and a half the length of the I femur; eyes as in male.

Epigynum has a broad septum with two oblique dark lines on each side.

Holotype (♂) New Mexico; Mesilla Park, T. D. A. Cockerell; N. Banks Coll.

Allotype (♀) New Mexico; Mesilla Park.

Paratype (♀) Col.; Boulder, T. D. A. Cockerell.

This species differs from *Ebo inquisitor* (Thorell) in the male palpus and the epigynum. They both have *Philodromus* markings, but agree with the characters used to separate *Ebo* from *Philodromus*.

EBO OBLONGUS Simon

Plate 3, fig. 23

Ann. Soc. Ent. Belgique, 1895, **39**, p. 442.

♀ 6.3 mm. long; ceph. 2.5 mm. long, 2.5 mm. wide, abd. 3.8 mm. long.

Cephalothorax with median light stripe, sides mottled with a dark brown; abdomen light with median dark lanceolate mark on basal half followed by faint chevrons and irregular dark marks on sides of posterior half; legs light yellow, lighter than the cephalothorax with darker spots at base of spines and many minute dots forming broken bands at middle and tips of femora and over the entire length of tibiae; sternum and venter light yellow covered with minute dark dots; coxæ yellow with few dots; clypeus almost vertical and as high as quadrangle of median eyes; labium wider than high; coxæ subequal; sternum longer than wide, widest between second coxæ and prolonged in a blunt point between fourth coxæ; fourth coxæ separated by almost a diameter; eyes, anterior row recurved, A.M.E. largest of the eight and separated

by a diameter and a half, and by half a diameter from A.L.E.; posterior row but little longer than anterior, only slightly recurved, eyes subequal, P.M.E. slightly nearer P.L.E. than to each other; quadrangle as high as distance between P.M.E.; A.L.E., P.M.E. and P.L.E. form an equilateral triangle; left legs missing, II leg longer than I; II femur one-fifth longer than I; spines, I and II tibiae, 2-2-2, 3 lateral, metatarsi, 2-2-2, longer than diameter of joint, 3 lateral.

Epigynum openings are a pair of transverse slits in a semicircular light area, above two pairs of round dark spots as figured.

1 ♀ Ala.; Auburn, C. F. Baker, N. Banks Coll.

Simon described this species from specimens about half grown. A co-type given by him to Mr. Banks is now in the museum collection. The adult specimen has been with the unidentified *Philodromus*. It agrees with *Ebo latithorax* Keyserling in the large A.M.E., the short and nearly straight posterior row of eyes and the vertical clypeus, but it differs in the spiny legs and the second pair of legs which are longer than the first but are not greatly elongated, and the cephalothorax which is only as wide as long.

TIBELLUS MARITIMUS (Menge)

Plate 3, fig. 35; Plate 4, fig. 46

Thanatus maritimus Menge, Preussische Spinnen, 1874, p. 398, pl. 225.

Tibellus oblongus Simon, Arachn. France, 1875, 2, p. 311, pl. 8, fig. 12.

Tibellus maritimus Kulczynski, Mem. Acad. Imp. Sci. St. Petersburg, 1908 (8), 18, p. 69-70.

♀ 7.3 mm. long; ceph. 2.5 mm., abd. 5 mm.

Cephalothorax pale yellowish brown, a broad median dark stripe with many short stiff hairs directed forwards, scattered short hairs directed forwards on the sides; abdomen bifid at base, pale brown with a narrow median dark stripe without pair of dark spots near apex; sternum, mouth parts and coxæ pale yellow with dark hairs directed forward, venter pale brown; legs pale yellow, IV leg longest and much longer than III leg, scopulate on entire length of tarsi and metatarsi; labium longer than wide; sternum longer than wide in proportion of 5 to 4; IV coxæ almost touching; eyes, anterior row recurved, subequal and equidistant, posterior row very strongly recurved, P.M.E. slightly smaller than P.L.E. and closer to each other than to P.L.E., quadrangle of median eyes slightly higher than width between A.M.E.; clypeus about as high as quadrangle and almost vertical.

Epigynum with a narrow median septum as figured.

♀ Alaska; Fox, 13 June 1931, Dr. G. Tullock.

♀ Wash.; Friday Harbor, 5 July 1927, L. G. Worley.

It is very probable that this species is distributed across the northern part of America. Kulczynski states that from the figure by Emerton in Hentz, Spiders of North America, pl. 20, fig. 11, probably *T. maritimus*, not *T. duttonii* which is supposed to be *T. oblongus*, is figured. It is not surprising that the two species have been confused in America as European authors have not always distinguished between them. According to de Lessert in Catalogue des Invertébrés de la Suisse, 1910, *T. oblongus* always has a pair of dark spots near the tip of the abdomen in both sexes, which is wanting in *T. maritimus*.

CLUBIONIDAE

MYRMECOTYPUS CUBANUS Banks

Plate 4, figs. 43, 45

Trans. Ent. Soc. London, 1926, 24, p. 433, fig. 1.

♀ 4 mm. long; ceph. 1.8 mm.; abd. 2 mm.

Cephalothorax brown, a little paler about eye area; abdomen brown with scattered white flattened hairs; sternum, mouth parts and I coxæ brown, II, III and IV coxæ and trochanters white, venter brown with white hairs on sides; legs slender, I and II femora light brown, patellae, tibiae and metatarsi lighter, with dark lateral stripes, III and IV brown, femora with white hairs; spines, 2 long spines near apex of femora, I tibia, 2-2, metatarsus, 2-2; eyes; anterior row straight, A.M.E. largest of eight, a little more than a diameter apart and about a radius from A.L.E.; posterior row but little longer than anterior, straight and subequal, P.M.E. separated by about three diameters and from P.L.E. by at least two diameters; quadrangle almost square; clypeus with scattered long, white hairs about as high as quadrangle. Cephalothorax with a broad head, moderately high, widest between II and III legs, cephalic groove very short; abdomen with a scutum covering more than basal two-thirds, widest at end of scutum; large corneous plate on basal third of venter.

Epigynum very simple, two oval openings widely separated.

1 ♀ Texas; Brownsville, C. Scheffer.

The genus *Myrmecotypus* was made by O. P. Cambridge in 1894 for the species *fuliginosus*. Simon in Hist. Nat. Araignées, 1897, 2, p. 175, places the genus as a synonym of *Apochinomma*, Pavesi, F. O. P. Cam-

bridge in Biol. Centr. Amer., 1899, 2, p. 80, after examining a female *Apochinomma* sent him by Simon, shows that the two are distinct genera. Mr. Banks described two species from Panama in 1929, both differing from the three Mexican species.

TRACHELAS BICOLOR Keyserling

Verh. z. b. Ges. Wien, 1887, **37**, p. 440, pl. 6, fig. 15.

The type is in the museum collection and is from Haiti. Mr. W. S. Blatchley found a female at Royal Palm Park, Florida, 24 March 1925. It differs from *Trachelas laticeps* by the eyes and the epigynum. The male is not known.

TRACHELAS LATICEPS spec. nov.

Plate 3, fig. 24

♀ 5 mm.

Cephalothorax brown, rugose with many short hairs; abdomen pale yellow, covered with fine short hairs and scattered long bristles; sternum, labium and maxillae brown with scattered hairs; venter light; legs, I brown, enlarged, II, III and IV pale yellow, no spines but I tibia with a row of small cusps, I metatarsus with two rows of cusps, II metatarsus with one row of cusps, a dense brush of black hairs at tip on ventral side of tibiae III and IV; spur on posterior side of IV patella; III without any cusps on femur, patella or tibia; eyes, anterior row straight, subequal, A.M.E. separated by less than a diameter and as far from P.M.E., more than a diameter from A.L.E.; posterior row recurved and much longer than anterior row, P.M.E. about two diameters apart; clypeus not as high as diameter of A.M.E.; mandibles large and swollen, two teeth on inferior margin of fang groove and three teeth on superior margin.

Epigynum as figured.

Holotype (♀) Fla.; Powelton P. O., Mrs. C. M. Willard.

Co-types (♀) Fla.; Royal Palm Park, 7-14 March 1930, C. W. Blatchley; ♀ Fla.; Sebastian, April 1932, G. Nelson.

Trachelas laticeps differs from *T. tranquillus* and *T. bicolor* by the epigynum and the slight differences in eye arrangement. In *T. tranquillus* the openings of the epigynum are large, dark and are separated by less than a radius, and the A.M.E. are the largest; in *T. bicolor* the openings of the epigynum are small, about a diameter apart and the epigastric area is almost twice as high as wide, the eyes of the anterior

row are subequal; in *T. laticeps* the openings are much larger, are separated by almost a diameter and the area is almost twice as wide as high. The males of *T. bicolor* and *T. laticeps* are unknown.

CORINNA GRACILIPES (Keyserling)

Plate 3, fig. 32

Hypsinotus gracilipes, Keyserling, Verh. z. b. Ges. Wien; 1887, **37**, p. 448, pl. 6, fig. 19.

♂ 9 mm. long; ceph. 4.5 mm.

Cephalothorax dark red brown, rugose, with a few long hairs about eyes; abdomen light gray; sternum, maxillae and labium dark brown; venter pale; legs and palpi pale brown; spines, I tibia, 2-2-2-2-2, metatarsus, 2-2; II tibia, 5-3, metatarsus, 2-2; eyes, anterior row almost straight, A.M.E. largest, separated by a scant diameter and about a radius from A.L.E.; posterior row a little longer than anterior and slightly procurved, eyes equidistant, P.M.E. smallest of the eight; quadrangle wider than high; clypeus higher than diameter of A.M.E.; mandibles swollen at base, porrect and transversely corrugated, four teeth on inferior margin of fang groove and three teeth on superior margin with a dense scopula of long hairs on the outer side.

Palpus; tibia almost twice as long as patella with many processes near the tip as figured.

Allotype (♂) Fla.; Miami, July 1916.

The type, a female, is from Haiti. This is undoubtedly the male as it agrees with the type in the museum collection in the eye arrangement and the number of spines on the anterior legs.

PSEUDOSPARIANTHIS CUBANA Banks

Second Rep. Centr. Exper. Sta. Cuba, 1909, p. 165, pl. 45, fig. 4.

Among the spiders collected by Mr. W. S. Blatchley at Royal Palm Park, Florida, is a female of this species. It is the first time that the genus has been found in the United States.

ATTIDAE

METAPHIDIPPUS LONGIPALPUS Cambridge

Biol. Centr. Amer., 1901, **2**, p. 264, pl. 23, fig. 12.

One male and two females were found by Mr. C. Schaeffer at Brownsville, Texas. The first record of this Central American species in the

United States. The teeth on the mandible and the male palpus are very characteristic.

ICIUS CINCTIPES Banks

Plate 4, figs. 42, 47

Can. Ent., 1900, **32**, p. 101.

♀ 2.5 mm. long; ceph. 1 mm.; abd. 1.8 mm.

Cephalothorax black about eyes, covered with short, white hairs, thoracic part brown with a dark margin; abdomen dirty white with dark markings; sides dark, venter infusate; legs light with dark spots on ventral sides of all joints, forming a broken ring at base of anterior tibiae and metatarsi; sternum light brown without marks; palpi with dark bands on upper side of patella and tibia, two terminal joints slightly enlarged; legs 4, 3, 1, 2, first pair of legs slightly enlarged, patella and tibia of equal length, metatarsus but little shorter than tibia and as long as tarsus; spines, I tibia, 2-2, metatarsus 2-2, longer than diameter of joint and overlapping; posterior legs almost devoid of spines; I coxæ separated by less than their diameter; sternum oval, widest between II coxæ; IV coxæ separated by less than half a diameter; inferior margin of mandible with one tooth; eye area occupying about two-fifths of the cephalothorax; anterior row of eyes recurved so that upper margins are even; third row not quite as wide as cephalothorax and the small eyes nearer the first than the third row.

Epigynum is a pair of simple oblique openings close together, not showing any of the internal structure.

1 ♀ Fla.; Royal Palm Park, March 1930, W. S. Blatchley Coll.

This species was described from females from Baton Rouge, Louisiana. An immature specimen from Punta Gorda, Florida, listed by Mr. Banks as *Habrocestum pulex* (Hentz) is undoubtedly this species. The generic position is uncertain. Most species of *Icius* are larger and have three pairs of spines beneath the first tibia and the cephalothorax is usually much lower and flatter than in this species, but until a male is found, it is thought best to leave it in the genus *Icius* which harbors many species that do not belong to it.